MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings (SOF) for the Above-Numbered Department of the Army permit application

- 1. Applicant: South Florida Water Management District (SFWMD) 3301 Gun Club Road
 West Palm Beach, Florida 33406
- 2. Location, project description, existing conditions:
- a. Location: The proposed project is located in Picayune Strand in an area previously known as Southern Golden Gate Estates (SGGE) and today known as the Picayune Strand Restoration Project (PSRP). The project area is located in Sections 1, 12, 13, 14, 24, 25, 36, Township 50 and 51 south, Range 27 east; Sections 1-36, Township 50 and 51 south, Range 28 east; Sections 4, 5, and 6, Township 52 south, Range 28 east, southwestern Collier County, Florida. It lies east of the city of Naples, between Interstate 75 (I-75) and U.S. Highway 41 (US-41). Combined with the Belle Meade State Conservation and Recreation Lands (CARL) area to the west, the PSRP project area constitutes the heart of what is now called the Picayune Strand State Forest. This forest is located south of the existing residential development of Northern Golden Gate Estates (NGGE) and Interstate 75, southwest of the Florida Panther National Wildlife Refuge, north of the marine preserves and refuges that constitute the Ten Thousand Islands Region, and west of the Fakahatchee Strand Preserve State Park. The project is located within the U.S. Geological Survey's 8-digit Hydrologic Unit Code (HUC) 03090204, Everglades West Coast watershed.

Latitude: -81.515966 north Longitude: 26.064421 west

b. Existing Site Conditions: The project site is 55,247 acres. The PSRP area was originally intended as residential development known as SGGE. As such the project area has an infrastructure of roads, bridges, canals, weirs, and other infrastructure. By the early 1970's, all of the roads and canals associated with the planned residential development had been constructed. The current road infrastructure is essentially the same as it was in the 1970's. There are a total of 279 miles of

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

roadway of which, 60 miles are paved with asphalt and 219 miles are surfaced with a crushed limerock surface. There are 251 culverts and ten bridges, two of which are newer construction, that comprise the road system. There are 125 "improved" sites which range from hunting camps and trailers to permanent homes. Nearly all of the sites were constructed without county building permits, do not have electric or telephone service, and very few have septic systems. The exceptions are on 52^{nd} and 54^{th} Avenue SE and at Port of the Islands. All properties, except those at Port of the Islands, are being purchased by the State. The canal system is 48 miles in length, with three fixed-crest weirs and four adjustable weirs. The newest weir was constructed on Merritt canal just south of I-75 in order to minimize drainage flowing from the Florida Panther National Wildlife Refuge. is located at the northern edge of the PSRP CARL boundary and divides PSRP from the existing development of NGGE. 29 (SR-29) runs north and south along the eastern edge of Fakahatchee Strand State Preserve. It is approximately 8 miles east of PSRP. US-41 runs generally west northwest to eastsoutheast along the southern edge of the PSRP CARL boundary and near the southern edge of the PSRP project area.

Major changes to the hydrology and biology of the PSRP project area landscape began between 1968 and 1971, when the four canals that comprise the Faka Union Canal system and the 279-mile road system were completed. This led to a significant decline in the landscape's ecology, which is still occurring to this day. Historic plant community composition changed from that of wetland and transitional vegetation to more upland, invasive, and exotic dominated systems. As historic cypress strands became drier due to the canal-induced draw down, there was a shift in vegetative succession toward a mixed cypress-hardwood-sabal palm system. Additionally, as a result of these abnormally dry conditions, hotter fires now frequently burn farther from prairies and flatwood communities into adjacent cypress strands or other hydric forested systems. Pines (Pinus spp.), sabal palms (Sabal palmetto) and saw palmettos (Serenoa repens) that are adapted to drier conditions and more intensive fire regimes have replaced the cypress forest communities. Often invasive exotic species like Brazilian pepper (Schinus terebinthifolius) and melaleuca (M. quinquenervia) have become dominant or co-dominant in many of these formerly hydric communities.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

The native sabal palm, also commonly called the cabbage palm, has become dominant throughout much of the project site during the past few decades. These palms form dense populations of similar sized, apparently young trees, beneath widely spaced individuals that appear to be very old. Ages of sabal palms here have been subjectively estimated, as features of their growth do not conform to annual or seasonal events, and ages cannot be accurately determined from their physical characters. Most areas with dense sabal populations do not appear to have had dense sabal palm populations on aerial photographs taken in 1940 and 1953. This suggests a sparse parent population that has given rise to a successful population of offspring, all at about the same time. The younger palms appear to be 2-3 decades old (again, ages determined subjectively), suggesting that the population increase occurred as the hydrology of the area changed. The sabal palm forest has now become almost a pure biotype within many areas of the PSRP project area. The Florida Division of Forestry (FDOF) who is responsible for management of the site now considers this palm an invasive species by that needs to be controlled in order to maintain diversity in the ecosystem.

In addition to impacts associated with the planned residential development of SGGE, the project area has also been impacted by silviculture activities. Elevated logging trams were constructed to support cypress logging operations in the 1940s and 1950s. Relative to the surrounding undisturbed land surface, trams ranged in height from 2 feet to 5 feet with adjacent ditches that ranged from shallow swale-like depressions to deep (+4-foot) holes. The height of the trams and depth of the associated ditches is largely a function of the original plant communities being traversed. Some of trams support a much more disturbed plant community with abundant exotic vegetation.

Public access to the project area has resulted in impacts associated with human disturbance. Easy human access by motorized vehicles has increased vandalism, indiscriminate firearms use, trash dumping, and illegal harvest of cypress and palm fronds. Off road vehicle (ORV) and motorcycles use is heavy and has impacted both flora and fauna.

Federally listed animal species known to exist within the PSRP project area and potentially affected by the proposed action

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

include the following: the endangered Florida panther [Felix (=Puma) concolor coryi], wood stork (Mycteria americana), Everglade snail kite (Rostrhamus sociabilis plumbeus), red cockaded woodpecker (Picoides borealis) and the threatened southeastern bald eagle (Haliaeetus leucocephalus) and eastern indigo snake (Drymarchon corais couperi.

c. Original Project Description: PSRP includes a total of 279 miles of which 59 miles are paved. The applicant proposes to remove asphalt from all 59 miles of roadway and allow 19 miles to remain as a primary above-grade or "all season" road. The remaining 260 miles will be degraded. Of the 260 miles to be degraded, 20 miles of secondary roads will be lowered to natural, pre-development grade and maintained at grade and 231 miles of roads will be restored to pre-development wetland conditions. In addition, roadside swales will be filled to natural ground elevation to restore the hydrologic sheetflow and encourage natural recruitment of wetland and upland plant species consistent with site conditions. Surplus suitable material excavated from the roads will be stockpiled on site for future use in canal plugging and backfilling.

The proposed construction work would be implemented in four phases.

- Phase 1 All roads east of Merritt Canal (65 miles).
- Phase 2 All roads between Merritt and Faka Union Canals (70 miles).
- Phase 3 All roads between Faka Union and Miller Canals (89 miles).
- Phase 4 All roads west of Miller Canal (54 miles).

The limits of clearing will extend approximately 100 feet from the centerline and include both uplands and wetlands. Potentially 5,278.62 acres of jurisdictional wetlands may be impacted as a result of the road removal project. Due to the size of the project area, the Corps' jurisdictional limits have not been field verified but were instead conservatively estimated using the 1990 National Wetlands Inventory (NWI) dataset and the 1999 Landuse/Landcover dataset. The applicant has contracted for a jurisdictional determination of the entire PSRP based on photo-interpretation of wetlands. This task consists of using soils map, NWI maps, historical aerial photos and field verification of

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

wetland signatures to provide the final wetland jurisdictional lines. Prior to construction of each phase of the project, the Corps will field verify the jurisdictional limits in accordance with the 1987 Federal Wetland Delineation Manual and information provided as a result of the photo-interpretation. Based on the NWI dataset the wetlands proposed for impact can be characterized as 465.24 acres of palustrine emergent, 4,206.41 acres of palustrine forested, 600.95 acres of palustrine scrub/shrub, 2.53 acres of palustrine aquatic bottom, and 3.48 acres of unconsolidated bottom areas. The staging areas for the project will be located on the existing roads, so there will not be any additional wetland impacts due to construction staging. Degrading of the roadways will result in approximately 4,570,000 cubic yards of excavation which includes removal of 50,040 cubic yards of asphalt.

d. Changes to the Project: Following discussion with the USFWS in August and September 2006, the applicant agreed to place above-grade material associated with logging trams into the adjacent ditches in order to facilitate sheetflow and exotic plant management efforts. The applicant agreed to coordinate and implement this activity during construction of Phases 2, 3, and 4 of the project.

e. Background:

The PSRP was originally approved as the Southern Golden Gate Estates Critical Restoration Project in 1998 and later (1999-2000) included in the Comprehensive Everglades Restoration Plan (CERP). The Corps completed an Integrated Project Implementation Report / Environmental Impact Statement for the PSRP in September 2004, with a Notice of Availability posting in the Federal Register on 19 November 2004. This document which is hereafter referred to as "PIR/EIS" is incorporated into this Memorandum by reference. The U.S. Fish and Wildlife Service (USFWS) completed a final Fish and Wildlife Coordination Act Report (FWCAR) in September 2004. The FWCAR requested significant information be provided at the project design stage, including additional hydrological modeling to determine project resource benefits, a project operations plan based on restoration objectives, completion of a ecological and water quality monitoring plan, an exotic and nuisance species management plan, and completion of a biological assessment.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

(2) The State of Florida has developed a plan called "Acceler8" for the purpose of accelerating design and construction of a number of critical restoration projects consistent with the CERP and concurrent with the development of a Project Implementation Report but prior to one or more of the following: Administration approval, congressional committee resolution, congressional authorization, or federal construction funding. The SFWMD is the lead agency responsible for implementing this Acceler8. The Corps and the SFWMD prioritized the PSRP as part of the Acceler8 in 2004. In February 2005, the USFWS, Corps PDT, and SFWMD agreed that moving forward on the initial road removal portion of the PSRP was a critical element of the restoration action. Therefore, the SFWMD proposes to implement a portion of the PSRP project prior to implementation of the full PSRP. This "portion" of the larger restoration project has been determined to have independent utility from other planned restoration activities in Picayune Strand.

(3) Permit History:

- (a) In October 2003, the Corps issued permit number SAJ-2003-8480(IP-HWB) to the SFWMD backfilling approximately 7 miles of Prairie Canal (42 acres). The project also included removal of 26 miles of roadway (182 acres) as well as ditch filling and berm removal. The Prairie Canal is the easternmost drainage canal in Picayune Strand constructed for the planned SGGE development. This project which was determined to have independent utility by the Corps is a component of the Corps' Recommended Plan, Alternative 3D, discussed in the PIR/EIS.
- (b) The SFWMD has initiated minor work within Picayune Strand under Nationwide Permit (NW) verifications for various activities including geotechnical investigations for proposed pump station sites (NW06 verified in September 2005) and protection levees (NW06 verified in July 2006) and soil remediation (NW38 verified in March 2006). These activities were also deemed by the Corps to have independent utility.
- 3. Project Purpose: The proposed project is a component of the State of Florida's Acceler8 initiative. The overall purpose of Acceler8 is to accelerate the funding, design, and construction of projects consistent with CERP in order to experience

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

environmental benefits sooner and in a cost-effective manner avoiding inevitable increases in land, construction materials, and labor costs.

- a. The basic purpose of the project is to remove and degrade existing roads and fill roadside swales to natural ground elevation in order to partially restore sheetflow.
- b. The overall purpose of the project is to return the hydrology to a more natural sheetflow regime which will partially restore native plant communities and improve both wetland and upland habitat within Picayune Strand for fish and wildlife resources.
- 4. Scope of Analysis: The scope of analysis includes the proposed action, alternatives considered, and the direct and indirect effects of the project. The proposed action includes construction of a portion of the CERP PSRP which has a Chief's Report and is currently under Administrative Review.

Some of the platted and uplatted lands within the boundary of SGGE were purchased using Department of the Interior's (DOI) Farm Bill funds for Everglades restoration purposes. The DOI, Department of the Army, Florida Department of Environmental Protection (FDEP) and the SFWMD are parties to a Framework Agreement under which all interim uses of the lands acquired with these funds must be consistent with the ultimate use of the property in a congressionally authorized federal project for Everglades restoration. The PSRP road removal project is considered an interim use until implementation of the CERP PSRP. The SFWMD is also required to obtain approval for a change in the interim land use from DOI per the terms of the funding agreement, prior to any activities that modify the landscape or result in surface changes associated with project construction. The DOI is currently processing the SFWMD's request for approval.

A number of federally listed species utilize Picayune Strand, particularly the Florida panther. Based on the U.S. Fish and Wildlife Service Draft CERP Landscape Level Project Planning/Siting Map for Panther Consultation dated 18 February 2004, the entire project site is considered "Primary Zone". The Florida Panther Subteam of the Multi-species Recovery

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

Implementation Team defines the Primary Zone as "All lands essential for the survival of the Florida panther in the wild".

There are also eight archaeological or historical resources potentially eligible for inclusion in the National Register of Historic Places (NRHP) within the proposed project's area of potential effect. Additional historic resources are located throughout the PSRP area of potential effect.

- 5. Statutory authority: Section 404 of the Clean Water Act (33 U.S.C. 1344).
- 6. Other Federal, State, and Local authorizations obtained or required and pending:
- a. State Permit/Certification: On 25 July 2006, the FDEP issued a Notice of Intent (NOI) to issue a permit for the road removal activities which was published on 6 August 2006. The FDEP issued permit number 0221670-004-GL for the PSRP road removal 26 days after publication of the NOI on 1 September 2006, under the authority of the Comprehensive Everglades Restoration Plan Regulation Act (CERPRA).
- b. Coastal Zone Management (CZM) consistency/permit: The CERPRA permit constitutes a finding of consistency with Florida's Coastal Zone Management Program for the portion of the project covered by the permit.
- c. Other authorizations: Until such time that the project becomes an authorized federal project, the SFWMD is required to obtain an interim land use change from the DOI prior to construction. The DOI is currently processing this request.
- 7. Date of the Public Notice and summary of comments:
- a. Important Dates: The SFWMD submitted a permit application for the project on 19 April 2006. The Corps requested additional information on 30 May 2006, and considered the application complete on 19 July 2005. The Corps issued a public notice on 24 July 2006, and sent this notice to all interested parties including appropriate State and Federal agencies.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

Throughout preparation of the PIR/EIS a number of National Environmental Policy Act (NEPA) scoping meetings were held by the Corps. Public coordination for the CERP PSRP project is described in Chapter 10 of the PIR/EIS.

Throughout the evaluation of this permit application, a number of public meetings were held by the SFWMD through the Acceler8 Basis of Design Report (BODR) process. Stakeholder meetings for BODRs associated with the PSRP Acceler8 project were held as follows:

Pump Station BODR

- 13-14 July 2005 in Fort Myers
- 18 July 2005 Water Resources Advisory Council (WRAC) Workshop at the Conservancy of Southwest Florida
- 17 November 2005, Port of the Islands citizens group at Port of the Islands
- 8 September 2005, WRAC on Sanibel Island

Levees, Canals, and Roads BODR

- 25-27 July 2006 in Fort Myers
- 11 August 2006, Port of the Islands citizens group at Port of the Islands
- 17 August 2006, WRAC Workshop at Golden Gate Community Center in Naples
- b. Public Comments: The Corps has reviewed all comments submitted in response to the public notice. The comments are summarized below with initial responses from the Corps.
- (1) U.S. Environmental Protection Agency (USEPA): The USEPA did not respond to the public notice.
- (2) USFWS: By electronic mail on 28 August 2006, the USFWS advised the project may be beneficial to the Florida panther and therefore, Section 7 consultation could proceed informally. The USFWS advised that beneficial effects to the panther are based on a presumed benefit from road removal (less traffic, less human disturbance, removal of exotic plants, potential for restoration of most of the roadways) versus minimal threat of incidental take from additional construction traffic that would be needed for each phase and would be mitigated by signs. Based on this information, the Corps changed its

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

determination for the Florida panther to "may affect, not likely to adversely affect" and requested termination of formal consultation and written concurrence with a "may affect, not likely to adversely affect" determination on 29 August 2006.

- (3) National Marine Fisheries Service (NMFS): The NMFS did not respond to the public notice.
- (4) State Historic Preservation Office (SHPO): By letter dated 16 August 2006, the SHPO responded to the public notice noting that protection buffers have been established around the buffer areas and the Corps will consult on final avoidance measures. These protection buffers were based on measures the Corps agreed to implement during consultation on the CERP PSRP project. By email on 17 August 2006, the Corps forwarded to the SHPO proposed permit conditions addressing the establishment of protection buffers around cultural resource sites as well as other conditions to avoid adverse effects to any sites potentially eligible for listing in the NRHP. By email on 18 August 2006, the SHPO advised that the permit conditions "looked good".
- (5) State and local agencies: No comments were received from any other state or local agency.
 - (6) Organizations: No comments were received.
 - (7) Individuals:
- (a) Ms. Jackie Wood: By telephone conversation on 10 August 2006, Ms. Wood stated concerns that the project would impede access to the adjacent community of Belle Meade and requested that the current access be upgraded to prevent flooding. The Corps explained to Ms. Wood that current access to Belle Meade would not be changed or affected by the project. On 18 August 2006, the Corps forwarded Ms. Wood a copy of a revised map showing the Belle Meade access remaining after project implementation.
- (b) Mr. Joe Frick: By email on 4 August 2006, Mr. Frick requested more information on the specific location of areas that will be affected by the project. Additional

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

information was provided by email to Mr. Frick by the Corps on 31 August 2006.

- (8) Internal Coordination: In response to the public notice, on 8 August 2006, the CERP PSRP PDT indicated the project maps attached to the public notice appeared to be inconsistent with the proposed road plan of the PIR/EIS and the 2003 Memorandum of Agreement (MOA) between SFWMD and Collier County. Specifically, the PDT noted the following concerns with the maps: loss of the connection of Janes Scenic Drive to Everglades Boulevard at I-75, loss of access to monitoring wells, the effect of the new east west roads in the southern end of the project area on hydrology, and retaining Miller Boulevard Extension. The PDT noted that these items will likely adversely affect the restoration benefits as predicted in the PIR/EIS.
- (9) Native American Tribes: The Seminole Tribe of Florida and the Miccosukee Tribe of Indians were forwarded copies of the public notice. No responses were received from either Tribe. The Corps PDT has coordinated extensively with the Tribes with respect to ongoing cultural resources surveys and reports.
- c. Response to Comments: In response to the comments of the PDT, on 15 August 2006, the Corps requested the applicant provide an explanation as to why the proposed project i.e. proposed road plan, is different the road plan agreed to between the Corps, FDOF, Collier County, and SFWMD during the PIR process. Corps requested the applicant focus on the issues identified by the PDT. On 16 August 2006, the applicant responded recognizing that the maps that were provided in the original application and used for the public notice were confusing in that they did not show the difference between primary and secondary roads and the geographic information system background used to generate the maps contained some trails that do not require road removal because they are already at grade. Specifically, the applicant had identified Miller Boulevard Extension as a trail on the original project maps. On 16 August 2006, the applicant provided a series of three new maps depicting roads proposed for removal, roads to remain (distinguishing between primary and secondary roads), roads that will be removed under a separate permit application for subsequent restoration activities i.e. the canal plugging and pump station construction. The revised maps did not include Miller Boulevard Extension which is located off of

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

Tamiami Trail and outside of the PSRP since it is not part of the proposed action and as no activities are planned for this atgrade road.

d. The revised maps were coordinated with the PDT on 16 August 2006. On 17 August 2006, the PDT stated their concerns are addressed by the revised maps and concurred that the road removal activities as proposed by the applicant are consistent with the PIR/EIS road plan and the 2003 MOA between SFWMD and Collier County.

8. Alternatives:

- a. Avoidance (no action, uplands, availability of other
 sites):
- (1) The Central and Southern Florida (C&SF) Project Comprehensive Review Study (Restudy): The purpose of the Restudy was to reexamine C&SF Project to determine the feasibility of modifying the project to restore the South Florida ecosystem and to provide for the other water-related needs of the region. The Restudy recommended the CERP which identified 68 components, individually focused at the local scale, but ultimately benefiting the entire Everglades ecosystem. The conceptual plan for PSRP as identified in the Restudy included construction of a series of pump stations and spreader channels to slow water flowing through existing canals and distribute it across the landscape. This would serve to restore the wetland communities in Picayune Strand and improve the timing and volume of freshwater flows to the downstream estuaries of the Ten Thousand Islands Region.

Subsequent to the conceptual plan in the Review, the Corps' Recommended Plan identified in the PSRP PIR/EIS as Alternative 3D includes rehydration of the failed 1960's residential subdivision (SGGE) through land acquisition, blocking drainage canals, pumping to force overland flow, and building protective structures. Alternative 3D would replace the conveyance capacity of the existing 44 miles of canals with three pump stations at the north end of the Project Area, plugging the canals and removing 227 miles of roads. The pump and spreader canal system would provide drainage conveyance from NGGE and avoid adverse backwater effects. Protective levees are proposed around

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

inhabited areas that would otherwise be susceptible to project induced water level increases. Expected project benefits include restoration of historic wetland communities, sheetflow towards the coastal estuaries, reduction of harmful surge flows through the Faka Union Canal into Faka Union Bay, improved freshwater overland flow and seepage into other bays of the Ten Thousand Islands Region, improved aquifer recharge, decreased frequency and intensity of forest fires, improved habitat for fish and wildlife and threatened and endangered species, reduced invasion of exotic species, and increased spatial extent of wetlands.

(2) State of Florida's Acceler8 Initiative: The PSRP is a State of Florida "Acceler8" project. On 14 October 2004, a Memorandum of Agreement (MOA) regarding acceleration of the Comprehensive Everglades Restoration Plan between the Executive Office of the Governor and the SFWMD was signed (Acceler8). Acceler8 expedites restoration of the Everglades and attainment of benefits ahead of the CERP schedule and serves as the initial foundation for other comprehensive restoration efforts to follow. Under Acceler8, the State proposes to accelerate the funding, design, and construction of planned federal projects within the CERP in order to provide environmental benefits sooner and in a cost-effective manner avoiding inevitable increases in land, construction materials, and labor costs. Acceler8 consists of eight projects (some with multiple components) that, when completed, will provide immediate environmental benefits including both water quality and water quantity benefits, flood control and water supply benefits. The MOA includes a finance plan that describes how the Acceler8 projects will be funded. The MOA constitutes the State of Florida's commitment to build the projects consistent with CERP and provides reasonable financial assurance that the projects can be built.

The SFWMD's Acceler8 plan for PSRP is consistent with the PIR/EIS and includes degrading roads and filling ditches, construction of spreader canals and pump stations, construction of canal plugs, and construction of protection levees with culverts. At this time the SFWMD's proposed action is limited to the removal of roads and filling of ditches although it is anticipated that the remainder of the restoration components as described in the PIR/EIS are likely to occur. The SFWMD's proposes to move forward with the road removal and ditch filling activities for

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

the purposes of providing immediate, partial restoration within Picayune Strand while moving forward with engineering design and modeling for the pump stations and levees which is necessary before implementing these restoration components.

(3) Alternatives Considered:

- (a) No Action Alternative: The No Action Alternative would not allow the applicant to achieve the project purpose. The existing roads are above the natural grade and as such act like small levees and barriers restricting sheet flow. and their associated drainage ditches and swales also redirect water back toward the canals. The roads are habitat for invasive and exotic vegetation, particularly Brazilian pepper. If no restoration plan were implemented, the Picayune Strand ecosystem would continue to deteriorate. The vegetation communities would continue to adjust to the dry conditions and the severe and frequent fires. Cypress forests, marshes, wet prairies, and other wetland communities would continue to decline. Palmetto, Sabal palm and Brazilian pepper would continue to expand throughout the area. Picayune Strand would continue to be heavily used by off-road vehicles. Illegal dumping would continue along many of the less-traveled roads.
- (b) Removal of Roads: In order to meet the project purpose, removal of roads is necessary. Removal of roads will accomplish the following goals and objectives:
- Provide for hydrologic restoration: The height of the road surfaces, the adjacent swales, and the spoil piles that were left on the outsides of the road rights of way inhibit and prevent sheetflow. Removal of roads, filling of roadside ditches, removal of spoil piles, and grading to natural elevations will redirect sheetflow needed for hydrologic restoration.
- Mitigate impacts on wildlife: The extensive road system in Picayune Strand (formerly know as SGGE) has a direct effect on wildlife populations. Easy human access by motorized vehicles decimates the prey base and increases disturbance during critical breeding and birthing periods. Poaching of wildlife has been reported. Panthers avoid Picayune Strand due to human disturbance and low prey bases. Removal of roads will reduce these adverse impacts to wildlife as a result of human access.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

- Reduce human impacts: Easy motorized access increases vandalism, indiscriminate firearms use, and trash dumping. Illegal harvest of cypress and palm fronds occurs. Off road vehicle, all terrain vehicle, and motorcycles use is heavy. Removal of roads will reduce these human impacts.
- Reduce exotic infestations: Removing only parts of the roads and berms would leave islands of exotics that would be nearly impossible to treat due to lack of access. This would be an ongoing problem as the areas would be re-infested (especially with Brazilian pepper, since the seed is distributed by wildlife). Removal of exotics is needed in order to support recolonization by native plant species.
- Provide for construction needs: The spoil material generated by road removal is needed to fill roadside ditches and surplus material may be used for future restoration efforts associated with canal plugging/filling.

Therefore, the alternatives that were considered centered on the proposed road plan, specifically which roads to remove and which roads to remain.

(i) Removal of all roads within Picayune Strand: Removal of all of the roads within Picayune Strand would not be feasible since it is necessary that some roads remain, particularly for ongoing land management actions by the Florida Division of Forestry (DOF) and to provide public access. The PDT identified the necessity for some roads to remain for the following reasons:

- To provide access to future pump stations
- To provide access to residences in the adjacent residential community, northeastern Belle Meade
- Forest management, particularly related to fires and fire control
- To provide public access for passive recreation
- To maintain access between Janes Scenic Drive and the Everglades Boulevard bridge over I-75
- To provide access to ground water monitoring wells

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

(ii) Implementation of the PIR/EIS road plan: The CERP PDT developed a road plan for the PSRP PIR/EIS in coordination with the SFWMD, Collier County, and DOF. Under this alternative, approximately 260 miles of the 279 miles of roads existing in Picayune Strand (formerly SGGE) would be degraded of which approximately 19 miles of roadway would have asphalt removed and be maintained as a primary above-grade road. This includes removal of 59 miles of asphalt. Approximately 231 miles of the 260 miles of roads degraded would also be removed and allowed to revegetate naturally. The remaining approximately 33 miles of roadway would remain as at-grade trails or service roads for a total of 52 miles of roadway.

The road material would be removed with standard earth-moving equipment. Asphalt would be removed and disposed of according to state regulations. Trees and other vegetation growing along and in the roads would be left in place as much as practicable. The demolished roads would generally become impassable by vehicles. Some of the material would be used for construction of the canal plugs and flood protection levees. Any remaining material would be placed in the canals to supplement the canal plugs.

Of the 52 miles of roads remaining, there would be approximately 19 miles of all season, above-grade roads and 20 miles of roadway lowered to pre-development grade but maintained as roadway. Stewart Boulevard would remain between Janes Scenic Drive and Everglades Boulevard. Everglades Boulevard would remain between Stewart Boulevard and I-75. Berson Boulevard west of the Merritt Canal would remain. These roads would be modified with a mix of low water crossings to allow water to flow over them and with culverts to allow water to flow under them. Portions of the north-south Miller, DeSoto, Merritt, and Patterson Boulevards would be degraded to adjacent ground elevations, but would remain available for use during the dry season. Up to 4 miles of new, unpaved roads would be constructed from Berson Boulevard southward to the sites of the three proposed pump stations.

The road plan as proposed in the PIR/EIS was developed based on the following documents:

• The Forest Road Standards document provides a framework of standards within which forest road construction,

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

maintenance, rehabilitation and closure should be conducted on Florida's State Forests.

- Picayune Strand State Forest Post Restoration Road Plan -Final Draft
- Reasoning behind the need for the road removal component in the Picayune Strand Restoration Project as described in Paragraph 8.a.(3)(b) above.
- 2003 MOA between SFWMD, FDEP, and Collier County This MOA provides a road plan that allows public access to remain in the PSRP for recreational opportunities as well to ensure the existing and sole access for private land owners in the adjacent Belle Meade area through 52nd Avenue (Berson Avenue) remains. The MOA identifies which roads will be designated as primary roads and defines primary roads as "all weather roads will be maintained above grade and will be open to the traveling public 24 hours a day, seven days a week." The MOA designated secondary roads and defines such roads as "dry season roads which will be stabilized and maintained at or below grade and will be open to the general public weather permitting as noticed by the FDOF."

(iii) SFWMD's Preferred Alternative: The proposed action described in Paragraph 2.c of this Memorandum includes degrading 260 miles of roadway and removing asphalt from all 59 miles of roadway including the 19 miles of roads that will remain as primary above-grade roads. This alternative is a subset of the Corps' Recommended Plan as described in the PIR/EIS as Alternative 3D. The SFWMD's proposed action for road removal is consistent with the road removal activities described in Alternative 3D.

Since the proposed action only includes road removal and does not include other restoration aspects identified in the PIR/EIS such as canal plugging, construction of pump stations, and construction of protection levees, implementing the PIR road plan is not feasible. Removal of roads adjacent to canals is not part of the proposed action and will remain until the canals are plugged under future restoration activities. 118th Avenue near Prairie Canal, 130th Avenue between Miller and Faka Union canals, 134th Avenue between Faka Union and Merritt Canals are adjacent to the major drainage canals. A future phase of the PSRP project includes construction plugging/filling portions of these canals. Removal of the roads listed above is anticipated to provide fill

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

material for canal plugging. Removal of these roads without canal plugging/filling would result in large spoil areas that would hinder sheetflow. Rather these roads will be removed concurrent with any future canal plugging/filling activities.

Miller Canal road south of the proposed pump station site, Faka Union canal road south of Stewart, and Merritt Canal road south of Stewart, are existing canal trails. These trails are needed to provide access to future pump stations site, therefore, it is not feasible to remove them at this time. Removal of these access ways would result in restoration of wetlands which would be impacted by future need to access proposed pump station sites with heavy construction equipment. In addition, it is not practicable from a cost perspective to remove the roads and then later rebuild the roads for pump station construction.

b. Minimization: The existing roadways in Picayune Strand were not constructed to any consistent profile. The depth and width of swales, location and make-up of spoil piles, and width of roadway varies across the 260 miles of road to be removed. Field observations show clearing limits could extend from 50 to 150 feet from the centerline of the existing road. The proposed project includes 100 feet as an average estimated distance. Actual clearing and grading, however, will be determined in the field and performed based on location of natural grade and The construction contractor will be removal of excess spoils. required to minimize the distance from the centerline to natural grade but at the same time ensuring areas above natural grade are degraded otherwise sheet flow will be obstructed. This will result in the minimal extent of clearing/grading to achieve the PIR project goal of restoring natural flow patterns to Picayune Strand.

The staging areas for the project will be located on the existing roads, so there will not be any additional wetland impacts due to construction staging. The applicant will determine limits of construction to minimize wetland impacts in the field by locating natural, undisturbed ground. Location of spoils piles, field observation, and/or survey will be used, as required, to locate natural grade. In addition, high ecological value forested wetlands and uplands important for the Florida panther will be flagged and avoided to the maximum extent possible.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

The proposed construction strategy for road removal is to perform the work in four phases.

- Phase 1 All roads east of Merritt Canal (65 miles).
- Phase 2 All roads between Merritt and Faka Union Canals (70 miles).
- Phase 3 All roads between Faka Union and Miller Canals (89 miles).
- Phase 4 All roads west of Miller Canal (54 miles).

Prior to construction of each phase and after the first five miles of roadway are removed within Phase 1, the applicant will coordinate with the Corps and incorporate lessons learned/modifying construction techniques, etc. prior to moving forward with subsequent phases of construction. As construction progresses and knowledge is gained, the phases listed above may be changed, modified, or incorporated to facilitate the expedited restoration of Picayune Strand and minimize wetland impacts to the greatest extent practicable.

- c. Project as Proposed: The project as proposed includes removing/degrading 260 miles of 279 miles of existing roads within Picayune Strand. Most of the roads are elevated six inches to a few feet higher than the surrounding ground. About 231 miles of these degraded roads would be lowered to allow for natural sheetflow of water and allowed to revegetate with limited maintenance of vegetation on 33 miles for the purpose of trails and service roads for forest management purposes only. The remaining roads would be used for ongoing land management actions by the FDOF and would be available to the public but with asphalt removed.
- d. Conclusions of Alternatives Analysis: The proposed project is the least damaging practicable alternative. This alternative will provide maximum restoration within Picayune Strand while allowing necessary access for the public and land management activities. This alternative will also allow for restoration efforts to immediately begin while the applicant proceeds with detailed design for subsequent restoration efforts without adding any unnecessary burden on the applicant for later reconstruction of roads needed for access during planned future activities. Implementation of this alternative is consistent with CERP. All practical means to avoid or minimize

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

environmental harm have been adopted in project design, construction, and operation and will be incorporated into permit conditions as described in this Memorandum.

- 9. Evaluation of the 404(b)(1) guidelines.
 - a. Factual determinations:
 - (1) Physical substrate:
- (a) Substrate Elevation and Slope: The project lies within Florida's coastal lowlands, in a region that is less than 13 feet above sea level. Small depressions having no surface drainage are common. The natural topography of the area is nearly flat, with the exception of unnatural features such as roadways, canals, berms, and trams.
- (b) Sediment Type: According to the Natural Resource Conservation Service (NRCS) soil survey (Luidahl, et. al, 1998), this area consists of soils that are very poorly drained. The surface layer (top 5 inches) is typically black muck (organic mud). The subsurface layer (5 10 inches) is dark gray fine sand, and the substratum (10 approx. 80 inches) is fine sand. Limestone outcrops were observed in the eastern portion of the project. Limestone can be encountered from the ground surface to a depth of 36 inches.
- (c) Excavated/Fill Material Movement: Once the roadside swales are filled and construction clearing has taken place, movement of fill and surface soils are not expected. Some minor erosion may occur in specific areas if high rain events induce flooding during or immediately after construction.
- (d) Physical Effects on Benthos: The benthos in the ponded areas adjacent to the roads i.e., roadside swales would be buried under the fill material.
- (2) Water circulation, fluctuation, and salinity: Although the project will provide some sheetflow and rehydration to wetlands, water will primarily be redirected to the canals eventually making its way to the downstream estuary.
- (3) Suspended particulate/turbidity: There should be no turbidity in canals as a result of the project. As roads are

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

removed any excess material will be stockpiled at the end of the road at the confluence and canal. This will provide a barrier preventing movement of material into the canal.

- (4) Contaminant availability. Agrochemical impacts in the form of chlordane have been identified in former agricultural areas of the PSRP boundary and adjacent Belle Meade area. Approximately 38.5 acres of chlordane impacted soil exists on the PSRP and 30 acres on the Belle Meade property. Contaminated soils are present in both upland and wetland areas. The applicant is currently remediating these areas under a separate Nationwide Permit Verification dated 2 November 2005. Remediation for areas affected by the proposed project will be required prior to construction. No toxic materials would be part of the spoil materials to be used in construction of any of the fill areas. In addition, asphalt road surfaces have been determined to be non-toxic. Asphalt will be disposed of or recycled in a manner consistent with federal and state requirements.
- (5) Aquatic ecosystem effects: No long-term adverse impacts on aquatic organisms are anticipated. Wetland habitats within Picayune Strand are expected to improve because of removal of roadbeds, grading to natural elevations, and partial restoration of sheetflow.
- (a) Effects on Plankton: No adverse impacts on autotrophic or heterotrophic organisms are anticipated.
- (b) Effects on Benthos: No adverse impacts to benthic organisms are anticipated.
- (c) Effects on Nekton: Mostly small forage fish may be temporarily displaced by construction and turbid water. However, no long-term adverse impacts on nekton are anticipated.
- (d) Effects on the Aquatic Food Web: No adverse impacts on aquatic organisms are anticipated. There is expected to be a relatively minor temporary effect on the aquatic food web due to construction activities. The aquatic food web should

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

improve with the project as sheetflow is partially restored as barriers i.e. roads are removed.

- (e) Effects on Special Aquatic Sites:
- (i) Hardground and Coral Reef Communities: There are no hardground or coral reef communities located within the proposed project site.
- (ii) Sanctuaries and Refuges: The PSRP encompasses an area of sensitive environmental land located in southwestern Collier County, Florida. It is located southwest of the Florida Panther National Wildlife Refuge, north of the Ten Thousand Islands National Wildlife Refuge, east of the South Belle Meade State CARL project, west of the Fakahatchee Strand State Preserve, and northeast of Collier-Seminole State Park. The South Belle Meade CARL project, known simply as "Belle Meade", and the PSRP area have been combined by the State of Florida to form the Picayune Strand State Forest. The central location of this project among all of these nature preserves and wildlife areas reflects its importance to the ecosystem connectivity of the entire region. The ecological condition of project area affects not only the immediate project area but also significant regional resources. The Picayune Strand Restoration project is a unique restoration opportunity. It is located in Collier County, one of the fastest growing counties in the The plans for the project including future restoration efforts that are not part of the proposed action will remove the infrastructure of a 55,247-acre subdivision and restore its predrainage hydrology and ecology. There are enormous environmental benefits to completing the PSRP. With implementation of the full CERP PSRP, Picayune Strand, surrounding affected public uplands, and affected portions of the Ten Thousand Islands estuary make up the largest restoration opportunity in southwest Florida. future generations, the restoration of this part of Southwest Florida needs one more piece of the puzzle that will tie all of these critical natural habitats together and PSRP will complete the puzzle and will generate positive effects on the hydrology, vegetation, and wildlife of the area and surrounding public lands.

(iii) Wetlands: PSRP encompasses 55,247 acres, the majority of which is wetland. Vegetative communities within

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

the proposed project include native and disturbed areas of hydric pine flatwoods, cypress swamp, cabbage palm and oak hammock, herbaceous wetlands, and Brazilian pepper thickets.

For the most part, habitats within the previously disturbed construction areas (canals, ditches and roads) are of very poor quality, and are dominated by nuisance and exotic species.

Common plant species include Brazilian pepper, lantana (Lantana aculeata), grape-vine (Vitis sp.), air potato (Dioscorea sp.),

Spanish needles (Bidens spp.), natalgrass (Rhynchelytrum repens), beauty-berry (Callicarpa americana), ragweed (Ambrosia spp.), dog fennel (Eupatorium spp.) and salt bush (Baccharis spp.). Sabal palmetto, wax myrtle (Myrica cerifera) and slash pine (Pinus elliotti) are scattered within the above vegetation in many areas.

The limits of clearing for the proposed project will extend approximately 100 feet from the centerline and include both uplands and wetlands. Potentially 5,278.62 acres of low quality jurisdictional wetlands may be impacted as a result of the road removal project. This includes 465.24 acres of palustrine emergent, 4,206.41 acres of palustrine forested, 600.95 acres of palustrine scrub/shrub, 2.53 acres of palustrine aquatic bottom, and 3.48 acres of unconsolidated bottom areas. The staging areas for the project will be located on the existing roads, so there will not be any additional wetland impacts due to construction staging.

Implementation of the project will provide sheetflow to the existing wetlands along the roadways by removal of roads which act as barriers to sheetflow providing rehydration to existing wetlands. Additionally, clearing will result in the removal of vegetation which in many cases is predominantly exotic plant species i.e. Brazilian pepper. The applicant will implement a plan to remove exotic and nuisance plant species that recruit and ensure recolonization by native wetland species. Improving the hydroperiod through sheetflow will assist in recruitment of native plant species over exotics. In addition, the project will result in restoration of 462.93 acres of wetlands through removal of 231 miles of roadway, grading to natural elevations, and recruitment by wetland plant species. Additional wetland restoration will also occur through filing of roadside swales to natural wetland grade, and removal of log trams and filling of associated ditches.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

- (iv) Mud Flats: There are none within the project footprint and none should be impacted by the project.
- (v) Vegetated Shallows: There are none within the project footprint and none should be impacted by the project.
- (vi) Riffle and Pool Complexes: There are none within the project footprint and none should be impacted by the project.
- (6) Proposed disposal site: Spoil material would be used to bring road side ditches to ambient grade along both sides of all roads to be removed. There would be no long-term adverse impacts to the project area resources as a result of the placement of the spoil material.
- (a) Mixing Zone Determination: The dredged material will not cause unacceptable changes in the mixing zone water quality requirements as specified by the State of Florida's Water Quality Certification permit procedures. No adverse impacts related to depth, current velocity, direction and variability, degree of turbulence, stratification, or ambient concentrations of constituents are expected from implementation of the project.
- (b) Determination of Compliance with Applicable Water Quality Standards: Because of the inert nature of the material to be used as fill, applicable State water quality standards would not be violated.
 - (c) Potential Effects on Human Use Characteristics:
- (i) Municipal and Private Water Supplies: No municipal or private water supplies would be adversely impacted by the implementation of the project.
- (ii) Recreational and Commercial Fisheries: Recreational and commercial fisheries would not be affected by the implementation of the project.
- (iii) Water Related Recreation: Water related recreation would not be affected as a result of project implementation.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

(iv) Aesthetics: The existing environmental setting would be changed through the removal of roads. Some vegetation and natural areas within the footprint would be unavoidably removed during construction. These impacts are not expected to adversely affect the aesthetic resources over the long term but rather improve them.

(v) Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves: See Paragraph 8(5)(e)(ii) above.

(7) Cumulative effects: There will be no adverse cumulative impacts as a result of the placement of fill at the project site. The proposed project would not cause or contribute to violations of State Water Quality Standards, jeopardize the existence of any federally endangered or threatened species nor impact a marine sanctuary. No significant degradation is expected and all appropriate and practicable steps have been taken to minimize impacts. Improvements to upland and wetland habitats are predicted with the proposed project. The removal of roads and filling of roadside swales is expected to reestablish a more natural sheet flow, which would restore wetland habitat.

The proposed project is part of the State of Florida's Acceler8 Program and is a component of the PSRP. It is anticipated that the remainder of the components of the PSRP would occur as a result of this project. Implementation of the remaining components of the PSRP includes canal plugging, construction of pump stations and tie-back levee, and protection levees. Cumulative impacts associated with implementation of the full PSRP project will have a positive cumulative impact as demonstrated by the PSRP goals and objectives:

- Restoration to the pre-drainage hydrology and ecology of the project area and generation of positive effects on the hydrology, vegetation and wildlife within the project area and surrounding public lands.
- Protection of water supply through improvements to aquifer recharge and prevention of salt water intrusion.
- Maintenance of drainage for developed areas north of the project.

CESAJ-RD-P SAJ-2005-6598(IP-TKW) SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

• Improvement in timing and distribution of flows to existing wetlands.

Based on habitat and enhancement and upland preservation, benefits are expected for fish and wildlife including threatened and endangered species such as the Florida panther, red-cockaded woodpecker and woodstork. Reducing fresh water releases (point source discharges) will improve the health and productivity of downstream estuaries.

Other anticipated future projects that may occur as a result of the proposed project include construction of the remaining suite of Acceler8 projects. These projects will have positive cumulative effects on the South Florida ecosystem. The Acceler8 projects are anticipated to provide watershed functions to the South Florida ecosystem consistent with the goals and objectives of CERP. The goal of Acceler8 is to assist in the restoration, preservation, and protection of the south Florida ecosystem while providing for other water related needs of the region. This program of projects will be designed to accomplish this by helping to provide the quantity, quality, timing, and distribution of water necessary to achieve and sustain those essential hydrological and biological characteristics that defined the undisturbed south Florida ecosystem.

The Acceler8 projects are designed to contribute many of the benefits from CERP as early as possible with the remainder of the CERP projects will follow as time and resources allow. Project features of both Acceler8 and CERP will cause some adverse impacts to wetlands and will change the landuse of tens of thousands of acres. These impacts and changes are necessary in order to achieve the CERP goals and objectives. The overall benefit to the regional system is expected to be far greater than the localized adverse effects. As these projects occur disparately across the landscape within different hydrologic basins, and as distinct units rather than multiple features within a single subregion, they will not likely result in a significantly detrimental cumulative effect.

(8) Secondary effects: There will be no adverse secondary impacts on the aquatic ecosystem as a result of the construction. The permittee will utilize standard Best Management Practices during construction to control/minimize

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

offsite transport of sediments. Impacts associated with construction traffic and equipment will be localized due to construction occurring in phases. Phasing of construction will allow wildlife to utilize undisturbed portions of the site and will allow for incorporation of lessons learned and construction techniques as construction progresses in order to avoid and minimize impacts. Prior to and following construction, project monitoring of groundwater and surface water elevations, vegetation, and wildlife will be implemented to ensure no adverse impacts as a result of the project.

b. Restrictions on discharges:

- (1) Alternatives: (See Paragraph 8 of this Memorandum).
- (a) The activity is located in a special aquatic site (wetlands, sanctuaries and refuges, mud flats, vegetated shallows, coral reefs, riffle and pool complexes).
- (b) The activity does not need to be located in a special aquatic site to fulfill its basic purpose.
- (c) It has been demonstrated in Paragraph 7 of this Memorandum above that there are no practicable or less damaging alternatives which would satisfy the project's basic purpose.

(2) Other program requirements:

- (a) The proposed activity does not violate applicable State water quality standards or Section 307 prohibitions or effluent standards.
- (b) The proposed activity does not jeopardize the continued existence of federally listed threatened or endangered species or affects their critical habitat.
- (c) The proposed activity does not violate the requirements of a federally designated marine sanctuary.
- (3) The activity will not cause or contribute to significant degradation of waters of the United States, including adverse effects on human health, life stages of aquatic

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

organisms, ecosystem diversity, productivity and stability; and recreational, aesthetic, and economic values.

(4) Minimization of adverse effects:

- (a) Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.
- (b) Compensatory mitigation: The Unified Mitigation Assessment Methodology (UMAM) was used to assess the function and value of the existing condition of the approximately 5,728.62 acres of wetlands that will be impacted as a result of the road removal activities. Due to similar location/landscape, water environment, and community structure, the wetlands proposed for impact were lumped into one assessment polygon. The existing functional capacity index (FCI) was scored at a 0.57. Although immediate construction impacts will result in clearing of vegetation including forested species and movement of soil there will be no placement of fill above the natural pre-development grade. Environmental lift is anticipated for location and landscape through removal of roads and associated human disturbance, for water environment through removal of barriers to sheetflow, and for community structure through implementation of an exotic management program. The with-project score was estimated at 0.77 FCI for a net lift of 0.2 for the wetland polygon.

Additionally, approximately 462.93 acres of wetlands will be restored through road removal activities. This assessment polygon was scored as a 0.3 FCI for existing conditions and a 0.73 FCI for with-project conditions for a net lift of 0.43. A time lag factor of 5 years to allow for re-establishment of native plant species and a risk factor of 1.5 due to unmanaged exotic species immediately adjacent to the 200-foot swath that will be managed by the applicant were included for both assessment polygons. With these considerations, the existing wetland polygon and the upland/road polygon should provide approximately 657.77 UMAM functional capacity units (FCUs) and 124.02 UMAM FCUs, respectively. The proposed project is anticipated to result in net positive environmental benefits of approximately 781.79 FCUs; therefore, no compensatory mitigation is required.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

The applicant, however, will be required to implement monitoring for the project consistent with the Appendix H of the PIR/EIS. This includes monitoring for fish and wildlife, vegetation, and groundwater. The SFWMD will be responsible for assessing the results of the project monitoring and demonstrating to the Corps that net positive environmental benefits are achieved. This will be done through coordination of the monitoring data with the PSRP monitoring and assessment team.

If after five-years the Corps determines that the project has not resulted in net positive environmental benefits, the Corps will re-evaluate the project and circumstances at that time and determine if alternative compensatory mitigation is necessary. Additionally, if the monitoring plan is updated, modified, or incorporated into other programs, the Corps will re-evaluate permit conditions and require any additional monitoring deemed necessary and/or modify the permit to remove specific conditions that are no longer applicable thus avoiding duplicative monitoring.

Although not factored in the UMAM assessment, the applicant also plans to place above-grade material associated with logging trams into the adjacent ditches. Trams generally range in height from 2 feet to 5 feet so removal in necessary in order to reestablish a land surface at natural grade and facilitate sheetflow. Many trams are dominated by Brazilian pepper and citrus, which have little wildlife value and will continue to exacerbate exotic plant control problems on adjacent re-hydrated areas after restoration. Trams may be left in place where occasional large cypress, bay, laurel oak, or other large native trees are present and the trams and ditches can be easily worked around during construction. The applicant plans to coordinate with the USACE and USFWS prior to removal regarding any trams that should remain for wildlife habitat purposes.

c. Findings: The proposed project complies with the Section 404(b)(1) Guidelines and is the least environmentally damaging practicable alternative with the inclusion of the specific permit conditions as described below.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

- (1) Special Condition number 1 requires the permittee to provide all submittals and reports required under the permit in a single Consolidated Annual Report.
- (2) Special Condition number 2 requires the permittee to hold a pre-construction meeting with notification to the agencies for the purposes of informing contractors on the conditions of the permit with.
- (3) Special Condition number 3 requires the permittee to notify the Corps prior to commencement of construction.
- (4) Special Condition number 4 requires the permittee to provide as-built drawings of the authorized work and a completed As-Built Certification Form.
- (5) Special Condition number 5 is specific for projects the permittee plans to construct in furtherance of the CERP, but which are being constructed in advance of final authorization/approval of the associated CERP PIR and/or execution of a Project Cooperation Agreement. This set of conditions addresses the Regulatory Division's NEPA analysis which is solely for the purpose of permitting, indicates the regulatory action does not constitute approval of engineering or work-in-kind credit for any future consideration of the project under CERP, and requires the project to be consistent with the C&SF Project as modified.
- (6) Special Condition number 6 requires the permittee to adhere to the CESAJ Master Specifications including Environmental Specifications from Section 01355 and the Turbidity Specifications from Section 01411.
- (7) Special Condition number 7 includes environmental commitments for avoiding, minimizing, or mitigating adverse effects during and following construction activities.
- (8) Special Condition number 8 includes environmental commitments and conservation measures for avoiding, minimizing, or mitigating adverse effects to wildlife and listed species.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

- (9) Special Condition number 9 includes conditions in the event unknown cultural resource sites or human remains are encountered.
- (10) Special Condition number 10 includes conditions for authorizing construction in phases.
- (11) Special Condition number 11 requires the permittee to submit any revisions and/or modifications to the project plans as well as all required monitoring reports. Failure to do so may result in the Corps not moving forward with authorization for a future modification of the permit.
- (12) Special Condition number 12 acknowledges the Permittee will remove log trams and fill log tram ditches.
- (13) Special Condition number 13 acknowledges that future recreational activities within Picayune Strand State Forest are proposed through the Department of the Forestry Resource's Ten-Year Management Plan and is not part of this proposed action.
- (14) Special Condition number 14 requires the permittee to identify areas of low water crossings or stabilized roadways prior to construction.
- (15) Special Condition number 15 requires the permittee to ensure that the project results in net positive environmental benefits or alternative compensatory mitigation may be necessary. This condition also requires the permittee to assess the data provided as a result of the project monitoring plans, coordinate with the PSRP Assessment and Adaptive Management Team efforts, implement any corrective actions deemed necessary, and provide the public with access to the status of the project monitoring and assessment results.
- (16) Special Condition number 16 acknowledges the permit conditions and monitoring requirements will be re-evaluated if a permit is granted for the additional planned restoration activities are implemented or if the monitoring and assessment programs are updated, modified, or incorporated into other programs.

10. Public Interest Review:

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

- a. Corps analysis of comments and responses. All comments received in response to the public notice have been considered in the following public interest review.
- b. All public interest factors have been reviewed. The Corps reviewed all of the public interest factors and considered the factors listed below relevant to this proposal. Both cumulative and secondary impacts on the public interest were considered.
- (1) Conservation: The goal of the Acceler8 program is to assist in the restoration, preservation, and protection of the South Florida ecosystem while providing for other water related needs of the region. This program of projects will be designed to provide the quantity, quality, timing, and distribution of water necessary to achieve and sustain those essential hydrological and biological characteristics to improve the South Florida ecosystem. The construction and operation of Acceler8 will be required to remain consistent with the Federal C&SF Project as modified by law and its project goals and purposes. Acceler8 serves as the initial foundation for other comprehensive restoration efforts to follow. The remaining CERP projects are anticipated to follow as time and resources allow.

There are minor design differences between the Acceler8 Picayune Strand Road Removal (PSRP) project and the CERP Picayune Strand Road Removal project. The PSRP PIR/EIS estimated a clearing limit of 75 feet from the centerline of the roadways. In the Planning, Design and Engineering (PDE) phase the applicant has conducted field observations which indicate that clearing could extend up to 150 feet from the roadway centerline.

The PSRP PIR/EIS estimated a large quantity of excess soil would be available from the road removal. The PDE analysis of the existing roadway survey combined with field observations; do not indicate that there will be a large quantity of excess soil. However, the SFWMD's construction contract will allow for stockpiling of excess soils adjacent to the canals for later use as canal plugs.

Both Acceler8 and CERP Picayune Strand Road Removal projects include degradation and restoration of 260 miles of existing primary and secondary roadways to natural ground elevation

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

located within the project area. Approximately 60 miles of paved roads will have the asphalt removed. The remaining secondary gravel roads will be lowered to natural, pre-development grade.

The proposed project is consistent with a component of the National Environmental Policy Act (NEPA) Recommended Plan described in the PIR/EIS. The minor design differences between the Acceler8 and the CERP project have been reviewed and coordinated with the CERP PDT. It has been determined that these differences will not preclude construction of the federal project and that the project as designed will be constructed consistent with the CERP project.

- (2) Economics: Implementation of the proposed project will allow for a CERP component to be built ahead of the CERP schedule in a cost-effective manner avoiding inevitable increases in construction materials and labor costs. The SFWMD has implemented a small business outreach program designed to solicit the involvement of local industries in the construction and operations of the project.
- (3) Aesthetics. The majority of roads within the PSRP area would be mostly eliminated. The reduced availability of access by motor vehicles would reduce illegal dumping, poaching, and the irresponsible use of firearms. Collectively, these changes would improve the aesthetic aspects of this area.

The restoration of the area to its natural state will result in a positive impact on aesthetic resources. The current views of roads, weeds, trash, and ditches will be replaced with natural views of native vegetation.

The existing environmental setting would be improved by returning the hydrology to a more natural sheetflow regime which will restore native plant communities and improve both estuarine and upland habitat for fish and wildlife resources. The proposed Acceler8 PSRP project includes restoration of 260 miles of roads located throughout the 55,247 acres PSRP project footprint. This restoration will be a change in the landscape from its current condition and will provide an increase in aesthetic value.

(4) General environmental concerns. Until canals are plugged, full restoration and rehydration within Picayune Strand

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

will not occur. The proposed action will result in immediate localized rainfall driven restoration of former impacted areas. The direct effects of the project result in the increase of the spatial extent of wetlands within the project footprint of the proposed action. Unavoidable wetland impacts associated with clearing will be offset by the net positive environmental benefits to the localized area and wildlife populations including improved wetland habitat and a reduction in public access and associated human disturbances.

(5) Wetlands: Wetlands are discussed in Section 3 of the PIR/FEIS. Wetland areas will be impacted in order to facilitate the removal of 260 miles of roads within the project area. These wetlands / surface waters are not in Outstanding Florida Water or Aquatic Preserve. There are 5,278.62 acres of wetland impacts associated with clearing and road degradation activities within the Picayune Strand Project. The 5,278.62 acres of wetland impacts include 465.24 acres of Palustrine Emergent, 4,206.41 acres of Palustrine Forested, 600.95 acres of Palustrine Scrub/Shrub, 2.53 acres of Palustrine Aquatic Bottom, and 3.48 acres of Unconsolidated Bottom areas.

Clearing and grading activities will necessitate impacting wetland areas within the limits of construction; however, removing these roads will return the hydrology to a more natural sheetflow regime within the construction footprint which will restore native plant communities and improve habitat for fish and wildlife resources. A total of 462.93 acres of wetlands will be restored through roadway removal. Additional wetland restoration will occur through filling of roadside swales.

(6) Historic and cultural resources. Both Phase I and Phase II Cultural Resource Surveys have been conducted for the PSRP which include the road removal areas. Data analysis for the Phase II survey is underway. Eight previous documented sites which are eligible or potentially eligible for nomination to the National Register of Historic Places, are in the immediate vicinity of road removal areas. Protection buffer for the eight known sites have been established. The Corps will continue to consult with the State Historic Preservation Office, Native American groups, and other interested parties on avoidance measures upon completion of the Phase II Draft Cultural Resource

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

Report scheduled for September 2006. Additionally, monitoring of groundwater and surface water elevations as a result of the project will be performed in order to evaluate effects to cultural sites.

- (7) Fish and wildlife values. Existing fish and wildlife values are discussed in Section 3 of the PSRP PIR/FEIS and effects to fish and wildlife values as a result of the project are discussed in Section 9 of the PSRP PIR/FEIS. In general, degraded habitat and human disturbance associated with the extensive road system in PSRP has a direct effect on wildlife populations. Easy human access by motorized vehicles decimates the prey base and increases disturbance during critical breeding and birthing periods. Poaching of wildlife has been reported. Telemetry data shows that for the most part panthers avoid the site likely due to human disturbance and low prey bases. of roads will reduce these adverse impacts to wildlife as a result of human access. In addition, removal of roads which act as barriers will assist in returning the hydrology to a more natural sheetflow. This will facilitate restoration of native plant communities and improve habitat for fish and wildlife resources.
- (8) Flood Hazards: The project will be built to state and federal safety requirements with frequent monitoring and maintenance to ensure no flood hazards. The Corps' Engineering Division has participated in technical reviews of Acceler8 design documents including the PSRP Road Removal project to ensure compliance with federal safety criteria.
- (9) Floodplain Values: The proposed project is committed to maintaining existing levels of flood protection to adjacent properties. The removal of roads within the project footprint will not impact adjacent properties.
- (9) Land Use: Existing land use is described in Section 3.12.1 of the PIR/FEIS. The land in the PSRP study area would not be used for development purposes with the implementation of PSRP project. This project would provide environmental benefits which will closely resemble predevelopment conditions. The surrounding residential areas will experience a large population increase, therefore an increase in infrastructure.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

(10) Recreation: Recreational use in the PSRP area is managed by the FDOF. The Picayune Strand State Forest and the Fakahatchee Strand State Preserve are the two main recreational resources in the area. The PSRP area is a popular area for hunting, mountain biking, camping, and horseback riding. The proposed road removal project is not anticipated to adversely affect the above mentioned recreational activities. It is anticipated that the removal of the majority of the roads within the project area will reduce the ease of accessibility currently available to the public, however the remaining roads will still provide access to these recreational resources. Furthermore, the removal of roads will also reduce the opportunities for vandalism and misuse of the natural resources.

Future recreational activities within Picayune Strand State Forest are also being proposed through the FDOF's Resource's Ten-Year Management Plan which is not part of this proposed action. This includes any proposed recreational or management uses of roads proposed by the managing entity.

- (11) Water supply: The public wells for the Port of the Islands are located just south of the PSRP. The proposed road removal activities will have no impact on the Port of the Islands wells. In addition, the proposed project in and of itself is not anticipated to recharge the water table aquifer back to its original level or restore groundwater hydroperiod to near-natural conditions since water will continue to be directed to the canals until such time that the canals are plugged. Ground water monitoring will be performed to determine changes as a result of the road removal activities.
- (12) Water Quality: Water quality for the full PSRP is addressed throughout the PIR/EIS particularly in Sections 3.10.2 and 9.10.2.
- (a) Wetlands will be restored as a result of road removal within the PSRP project area. Water quality originating upstream of the project will be improved as it passes through the restored wetlands communities.
- (b) This permit decision is being issued with a State Water Quality Certification for implementation of the proposed project including all phases of road removal construction.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

- (c) Appendix H of the PSRP PIR/FEIS includes the Water Quality Monitoring Plan that will be implemented in its entirety once the full restoration project is constructed and brought on line. Until such time ecological and water quality monitoring will be more localized and associated specifically with the road removal activities.
- (13) Safety: Construction of the project will be a major construction undertaking involving heavy equipment. All construction equipment will have mufflers, back-up allowance and roll-over protection in compliance with OSHA regulatory standards. Workers at the site are required to wear safety equipment such as steel-toed shoes, hard hats, eye and ear protection devices, etc. Public access will be controlled during construction. Speed limits will be posted at the construction site.
- of the land within the project area was acquired by FDEP using State funds. The Department received a federal farm bill grant in the amount of \$38,084,965 to acquire some of the project land. Per the terms of the federal grant agreement, the FDEP is required to receive approval from the DOI before initiating any changes in the interim use of the grant lands. The DOI, FDEP, and the SFWMD are parties to the Framework Agreement which requires an interim land use change until such time that the lands are incorporated into a federal project. In addition, the Agreement specifically requires, in the interim, that the property owner manage the lands consistent with the purposes of restoring the Everglades ecosystem.

There are 805 acres that remain to be acquired pending litigation over value and means of payment.

c. Describe the relative extent of the public and private need for the proposed structure or work. Much of the tourism in southwest Florida is eco-based. By removing roads to restore and rehydrate wetlands and removing exotic plant species, the ecosystem will be improved. With implementation of the project and removal of roads widespread and uncontrolled public access will be better managed. This will allow FDOF to provide more recreational opportunities because they will be able to better

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

management the forest. Additional public and private needs for the PSRP project will be realized once the full restoration activities are implemented.

- d. Describe the practicability of using reasonable alternative locations and methods to accomplish the objective of the purposed work where there are unresolved conflicts as to resource use. Public concern with the PSRP is described in Section 5.1 of the PIR/EIS. There are no unresolved conflicts associated with the road removal activities; however, it should be noted that the project site has experienced ORV use in the past. This use was not legal and has been stopped by the FDOF as the management entity. Alternative sites for ORV use are being assessed by FDEP, FDOF, SFWMD, and Collier County. The applicant has offered the use of the Lake Trafford spoil disposal site for ORVs to meet obligations agreed to under the Collier County MOA.
- e. Describe the extent and permanence of the beneficial and/or detrimental effects which the proposed work is likely to have on the public and private uses to which the area is suited. The areas within the project footprint have been acquired with state and federal funds for restoration purposes. As such these lands are no longer available for development purposes. Construction impacts associated with removal of roads will be permanent and will have a beneficial effect on the wetland and upland habitat and fish and wildlife. Construction impacts associated with clearing and removal of vegetation is temporary as vegetation will naturally recruit. This change is beneficial since exotic and nuisance plant species would be removed and replaced by native plant species.

f. Threatened or endangered species:

(1) Background: With the assistance of the USFWS, the Corps PDT completed a Biological (BA) Assessment for the PSRP on 20 October 2004. Based on the BA and the project commitments and conservation measures described in the BA and the PIR/EIS, the Corps determined that the PSRP "may affect, but is not likely to adversely affect" the Everglade snail kite, American crocodile (Crocodylus acutus), red-cockaded woodpecker, eastern indigo snake, bald eagle, and designated critical habitat for the West Indian manatee (Trichechus manatus). The Corps concluded that insufficient information was available to complete consultation

CESAJ-RD-P SAJ-2005-6598(IP-TKW)

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

for the Florida panther, West Indian manatee, and wood stork, based on significant information needs, including detailed design, additional hydrological monitoring, and the Project Operations Plan. By letter dated 20 October 2004, the USFWS concurred with the Corps' determination.

Proposed Action: In February 2005, the USFWS, Corps PDT, and SFWMD agreed that moving forward on the initial road removal portion of the PSRP was a critical element of the restoration action. Based on the Picayune Strand Restoration Project Biological Assessment dated October 20, 2004, Final Florida Fish and Wildlife Coordination Act Report dated September 2004, the Florida Panther Effect Determination Key dated August 2003, and the permit application for the proposed action, the Corps concluded on 28 July 2006, that the project would have "no effect" on the West Indian manatee, "may affect but is not likely to adversely affect" the wood stork, and "may affect" the Florida panther. The Corps requested initiation of formal consultation for the panther and concurrence with the other determinations. The Corps also determined that consultation for previously considered species (see Paragraph 2.b of this Memorandum) had been completed and reinitiation of consultation was not necessary for the road removal project component. The Corps made this determination based on the proposed road removal activity being performed consistent with the road removal as described in the PIR/EIS and with the commitment to incorporate all applicable environmental commitments and conservation measures of the CERP PSRP PIR/EIS and BA into any issued permit for the proposed Acceler8 road removal action.

On 29 August 2006, upon receipt of additional information, including detailed engineering plans, project design commitments, and coordination with the USFWS and applicant on conservation measures to be included as permit conditions, the Corps determined that the project "may affect, but is not likely to adversely affect" the Florida panther and requested termination of formal consultation. On 8 September 2006, the Corps provided the USFWS with draft permit conditions including project commitments and conservation measures consistent with the requirements of the BA and PIR/EIS. By letter dated 11 September 2006, the USFWS concurred with the Corps' determinations that the project will not adversely affect listed species and further

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

stated the work will not affect fish and wildlife resources and will in fact, offer immediate benefits.

- g. Essential Fish Habitat (EFH): The public notice included an initial determination that the project would not have an adverse impact on EFH or Federally managed fisheries. The NMFS did not provide any EFH conservation recommendations in response to the public notice. Therefore, the Corps is satisfied that the consultation procedures outlined in 50 CFR Section 600.920 of the regulation to implement the EFH provisions of the Magnuson-Stevens Act have been met.
- h. Corps' wetland policy. The proposed wetland alteration is necessary to realize the project purpose and should result net positive environmental benefits.
- i. Cumulative and secondary Impacts: There should be no adverse cumulative or secondary impacts caused by the project. This is discussed in Paragraphs 9.a.(7) and 9.a.(8) of this Memorandum.
- 11. Corps' Analysis of Comments and Responses: The Corps has reviewed and analyzed all comments received in response to the public notice. The revised maps and accompanying narrative/explanation provided by the applicant served to clarified all concerns concerning the road removal activities ensuring consistency with the PIR and adequate public access as agreed to under the MOA.

Issues brought forth by the public during the NEPA scoping process for the PSRP are discussed in the PIR/EIS and primarily include increased flooding in NGGE, loss of wetland function in NGGE due to over drainage, and elimination of ORV use. The road removal activities will not affect the adjacent community of NGGE. Re-establishment of sheetflow will be more localized on either sides of the roadways that are removed as water will continue to be directed to the drainage canals. The use of ORVs within the project site was not legal and has been eliminated by the FDOF. The FDOF would be the manager of the land once construction of the full PSRP is complete. The FDOF management plan for the Picayune Strand State Forest would address a variety of potential outdoor recreational uses, such as hiking, horse riding, bird watching, hunting, and vehicle use.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

12. Public Hearing Evaluation: The Corps did not receive any request for a public hearing during evaluation of the permit application.

13. Determinations:

- a. Compliance with 404(b)(1) guidelines. Having completed the evaluation in Paragraph 8 above, I have determined that the proposed discharge complies with the 404(b)(1) guidelines.
- b. Public interest determination. I find that issuance of a Department of the Army permit is not contrary to the public interest.
- c. Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been demonstrated that the activities proposed will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.
- d. Compliance with CERP: This decision to permit the proposed project is based on the agreement by the SFWMD to design, construct, and operate the Acceler8 projects consistent with the requirements of the WRDA of 2000, applicable federal and state law, and the C&SF Project purposes as a whole. The State has acknowledged that it will be in full compliance with the Programmatic Regulations, President/Governor Agreement, and Section 601 of WRDA 2000 prior to execution of a Project Cooperation Agreement in order for the project to become a federal project.

SUBJECT: Department of the Army Environmental Assessment SOF for the Above-Numbered Department of the Army permit application

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